(2) optimum temperature: the ability has an optimum temperature of about 35 to 40°C;

(3) molecular weight: the polypeptide has:

(i) a molecular weight of about 75 kDa to 95 kDa estimated by gel filtration chromatography;

C1 cont

(ii) a molecular weight of about 90 kDa to 100 kDa estimated by polyacrylamide gel electrophoresis; and

(iii) a molecular weight of about 90 kDa to 100 kDa estimated by SDS-polyacrylamide gel electrophoresis under a reduced condition; and

(4) inhibition: the ability is inhibited by iodoacetamide, N-ethylmaleimide, and myo-inositol.

14. (Amended) The DNA of Claim 13, wherein the polypeptide comprises an amino acid sequence shown in SEQ ID NO: 1, 2 or 3.

15. (Amended) An isolated DNA encoding a polypeptide having an ability to produce raffinose from sucrose and galatinol, wherein the DNA is hybridizable under stringent conditions to a DNA comprising nucleotide numbers 56 to 2407 of SEQ ID NO: 4, the stringent conditions being 1 x SSC, 0.1% SDS at 60°C.

16. The DNA of Claim 15, wherein the stringent conditions are 0.1 x SSC, 0.1% SDS at 60°C.

C2

22. (Amended) The DNA of claim 37, wherein the plant is a dicotyledonous plant.

23. The DNA of Claim 22, wherein the dicotyledonous plant is a *Cucurbitaceae* *Leguminosae* or plant

24. The DNA of Claim 22, wherein the dicotyledonous plant is a *Cucurbitaceae* plant.

25. The DNA of Claim 24, wherein the *Cucurbitaceae* plant is a melon or a cucumber.

26. The DNA of Claim 24, wherein the *Cucurbitaceae* plant is *Cucumis melo* or *Cucumis sativus*.

31. The DNA of Claim 13, wherein the DNA is hybridizable under stringent conditions to a DNA comprising nucleotide numbers 56 to 2407 of SEQ ID NO: 4.

32. The DNA of Claim 13, wherein the stringent conditions are 1 x SSC, 0.1% SDS at 60°C.

33. The DNA of Claim 13, wherein the stringent conditions are 0.1 x SSC, 0.1% SDS at 60°C.

34. The DNA of Claim 13, wherein the raffinose synthase has a homology of not less than 35% with respect to the raffinose synthase shown in SEQ ID NO: 5.

35. The DNA of Claim 13, wherein the raffinose synthase has a homology of not less than 40% with respect to the raffinose synthase shown in SEQ ID NO: 5.

36. The DNA of Claim 13, wherein the raffinose synthase has a homology of not less than 65% in the region between the 510^{th} and 610^{th} amino acid of SEQ ID NO: 5.--

Please add the following claims.

--37. (New) The DNA of Claim 15, wherein the DNA is obtained from a plant.

38. (New) A chimeric gene comprising a coding region of a polypeptide having an ability to produce raffinose from sucrose and glactinol, and a transcription regulatory region expressible in plant cells, wherein the transcription regulatory region is linked to the coding region so that a mRNA homologous to the coding strand of the coding region is expressed, wherein the coding region comprises a DNA hybridizable under stringent conditions to a

DNA comprising nucleotide numbers 56 to 2407 of SEQ ID NO: 4, the stringent conditions being 1 x SSC, 0.1% SDS at 60°C.

39. (New) The chimeric gene of Claim 38, wherein the stringent conditions are 0.1 x SSC, 0.1% SDS at 60°C.

40. (New) The chimeric gene of Claim 38, wherein the polypeptide having the ability to produce raffinose from sucrose and galactinol has the following properties:

C3 Cont.

(1) optimum pH: the ability has an optimum pH of about 6 to 8;

(2) optimum temperature: the ability has an optimum temperature of about 35 to 40°C;

(3) molecular weight: the polypeptide has:

(i) a molecular weight of about 75 kDa to 95 kDa estimated by gel filtration chromatography;

(ii) a molecular weight of about 90 kDa to 100 kDa estimated by polyacrylamide gel. electrophoresis; and

(iii) a molecular weight of about 90 kDa to 100 kDa estimated by SDS-polyacrylamide gel electrophoresis under a reduced condition; and

(4) inhibition: the ability is inhibited by iodoacetamide, N-ethylmaleimide, and myo-inositol.

41. (New) The chimeric gene of Claim 40, wherein the polypeptide comprises an amino acid sequence shown in SEQ ID NO: 1, 2 or 3.

42. (New) The chimeric gene of Claim 38, wherein the coding region is obtained from a plant.

43. (New) The chimeric gene of Claim 42, wherein the plant is a dicotyledonous plant.

44. (New) The chimeric gene of Claim 43, wherein the dicotyledonous plant is a *Cucurbitaceae Leguminosae* or plant.

45. (New) The chimeric gene of Claim 43, wherein the dicotyledonous plant is a *Cucurbitaceae* plant.

46. (New) The chimeric gene of Claim 45, wherein the *Cucurbitaceae* plant is a melon or a cucumber.

47. (New) The chimeric gene of Claim 45, wherein the *Cucurbitaceae* plant is *Cucumis melo* or *Cucumis sativus*.

C7 cont

48. (New) A plant which is transformed with the chimeric gene as defined in Claim 38.

49. (New) A plant which is transformed with the chimeric gene as defined in Claim 39.

50. (New) A plant which is transformed with the chimeric gene as defined in Claim 40.

51. (New) A plant which is transformed with the chimeric gene as defined in Claim 41.

52. (New) A plant which is transformed with the chimeric gene as defined in Claim 42.

53. (New) A plant which is transformed with the chimeric gene as defined in Claim 43.

54. (New) A plant which is transformed with the chimeric gene as defined in Claim 44.

55. (New) A plant which is transformed with the chimeric gene as defined in Claim 45.

56. (New) A plant which is transformed with the chimeric gene as defined in Claim 46.

57. (New) A plant which is transformed with the chimeric gene as defined in Claim 47.

58. (New) A method for changing a content of raffinose family oligosaccharides in a plant, comprising transforming the plant with the chimeric gene as defined in Claim 38, and expressing the nucleic acid in cells of the plant.

C3 cont.

59. (New) A method for changing a content of raffinose family oligosaccharides in a plant, comprising transforming the plant with the chimeric gene as defined in Claim 39, and expressing the nucleic acid in cells of the plant.

60. (New) A method for changing a content of raffinose family oligosaccharides in a plant, comprising transforming the plant with the chimeric gene as defined in Claim 40, and expressing the nucleic acid in cells of the plant.

61. (New) A method for changing a content of raffinose family oligosaccharides in a plant, comprising transforming the plant with the chimeric gene as defined in Claim 41, and expressing the nucleic acid in cells of the plant.

62. (New) A method for changing a content of raffinose family oligosaccharides in a plant, comprising transforming the plant with the chimeric gene as defined in Claim 42, and expressing the nucleic acid in cells of the plant.

63. (New) A method for changing a content of raffinose family oligosaccharides in a plant, comprising transforming the plant with the chimeric gene as defined in Claim 43, and expressing the nucleic acid in cells of the plant.

64. (New) A method for changing a content of raffinose family oligosaccharides in a plant, comprising transforming the plant with the chimeric gene as defined in Claim 44, and expressing the nucleic acid in cells of the plant.

65. (New) A method for changing a content of raffinose family oligosaccharides in a plant, comprising transforming the plant with the chimeric gene as defined in Claim 45, and expressing the nucleic acid in cells of the plant.

66. (New) A method for changing a content of raffinose family oligosaccharides in a plant, comprising transforming the plant with the chimeric gone as defined in Claim 46, and expressing the nucleic acid in cells of the plant.

C3 Cont

67. (New) A method for changing a content of raffinose family oligosaccharides in a plant, comprising transforming the plant with the chimeric gene as defined in Claim 47, and expressing the nucleic acid in cells of the plant.

68. (New) A method for changing the content of raffinose family oligosaccharides in a plant, comprising transforming the plant with a gene encoding a polypeptide having an ability to produce raffinose from sucrose and galactinol, and expressing the gene in cells of the plant, wherein the gene comprises a DNA which hybridizes under stringent conditions with nucleotides 56 to 2407 of SEQ ID NO: 4, or a complementary nucleotide sequence thereof, wherein the stringent conditions comprise washing at 60°C in 1 x SSC and 0.1% SDS.

69. (New) A method for producing a polypeptide having an ability to produce raffinose from sucrose and galactinol comprising an amino acid sequence shown in SEQ ID NO: 1, 2 or 3 and having the following properties:

(1) optimum pH: the ability has an optimum pH of about 6 to 8;

(2) optimum temperature: the ability has an optimum temperature of about 35 to 40°C;

(3) molecular weight: the polypeptide has:

(i) a molecular weight of about 75 kDa to 95 kDa estimated by gel filtration chromatography;

C3 cont.

(ii) a molecular weight of about 90 kDa to 100 kDa estimated by polyacrylamide gel electrophoresis; and

(iii) a molecular weight of about 90 kDa to 100 kDa estimated by SDS-polyacrylamide gel electrophoresis under a reduced condition; and

(4) inhibition: the ability is inhibited by iodoacetamide, N-ethylmaleimide, and myo-inositol, said method comprising culturing an appropriate host into which a DNA coding for the polypeptide is introduced, and recovering the polypeptide,

comprising:

culturing a host into which a DNA coding for the polypeptide is introduced, and recovering the polypeptide.--

SUPPORT FOR THE AMENDMENTS

Newly added Claims 37-69 are supported by the specification at pages 7-78 and the original claims. In particular, newly-added Claim 69 is supported by the specification at page 65, lines 14-17 and original Claim 12. No new matter is believed to have been added to this application by these amendments.